

8



UNITED STATES-PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/066,123	01/30/2002	Kenneth R. Wilsher	65.0372	5687

7590 02/09/2004

Bruce D. Riter
101 First Street, PMB 208
Los Altos, CA 94022-2750

EXAMINER

KERVEROS, JAMES C

ART UNIT	PAPER NUMBER
----------	--------------

2133

DATE MAILED: 02/09/2004

11

Please find below and/or attached an Office communication concerning this application or proceeding.

8

Office Action Summary

Application No.

10/066,123

Applicant(s)

WILSHER, KENNETH R.

Examiner

James C Kerveros

Art Unit

2133

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 January 2004.
- 2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) 11-18 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 5-10 is/are allowed.
- 6) ☒ Claim(s) 1-4 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 8.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

This Office Action is in response to Amendment filed January 16, 2004.

This application contains claims 11-18 drawn to an invention nonelected with traverse in Paper No. 6. A complete reply to the final rejection must include cancellation of nonelected claims or other appropriate action (37 CFR 1.144) See MPEP § 821.01.

Claims 1-18 are pending.

Response to Arguments

Applicant's arguments with respect to claims 1-10 have been considered but are moot in view of the new ground(s) of rejection.

Claims 1 and 2 are rejected as being anticipated by Charles et al. (US 4637733),

Claims 3 and 4 are rejected as being unpatentable over Charles et al. (US 4637733) in view of and Toeppen et al. (US 5,900,755) and Claims 5-10 are allowed over the prior arts, as set forth in this Office Action.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1 and 2 are rejected under 35 U.S.C. 102(b) as being anticipated by Charles et al. (US 4637733).

Regarding Claims 1 and 2, Charles discloses a system of calibrating a timer (FIG. 1) for measuring a time period T defined by boundaries corresponding between a starting instant ($T1$) and a stopping instant ($T2$), including a ramp vernier fine counting means for measuring the first time ($T1$) between the starting instant and a first later front of a clock signal and for measuring the second time ($T2$) between the stopping instant and a second later clock front, and further including coarse measurement capability, such as rough counting means (main counter circuit 2, FIG. 1) for counting N clock periods of time τ between the first and second fronts, (see abstract and claim 1 of the reference), comprising:

Determining alignment by utilizing a compensation circuitry for determining the nonlinearity in the voltage ramp signal for determining the corrective term of the voltage ramp (FIGS. 3-8) relative to a reference-clock (clock signal SH) having a known relationship to the boundaries ($S1$ and $S2$) which represent the starting instant and the stopping instant of time T to be measured. Sampling the voltage ramp (FIGS. 3-6) during the calibration cycle at a plurality of known times relative to the boundaries ($S1$ and $S2$) and determining the slope of the voltage ramp as a function of time from the voltage samples, where FIG. 3 shows the ramp deviation in relation to an ideal linear variation, and further aligning the voltage ramp relative to the time interval boundaries, FIG. 2.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 3 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Charles et al. (US 4637733) in view of Toeppen et al. (US 5,900,755).

Regarding Claims 3 and 4, Charles does not disclose a phase-locking the interval clock signal to a reference-clock signal at a second frequency so that phase relationship between the interval-clock signal and the reference-clock signal is defined and furthermore, operating a phase-locked loop to maintain a defined phase relationship between the interval-clock signal and the reference-clock signal. However, Charles substantially discloses a processor circuit (5, FIG.1), which calculates time phase (ΔT) of time T in relation to the clock signal, constituted by the value (T1-T2) representing the fine measurement, which exceeds the whole number N of the clock periods. Furthermore, Toeppen, in an analogous art, discloses (Figure 5) a phase locked loop comprising a phase detector 504, which compares the phase of the reference clock 502 with the scaled interval acquisition clock 518, where the output of the phase detector 520 defines the phase relationship between the reference clock 502 and the acquisition clock 518, described in (column 3, lines 5-20). It would have been

Art Unit: 2133

obvious to a person having ordinary skill in the art at the time the invention was incorporate a phase locked loop, as taught by Toeppen, in the system of Charles, as to properly align the starting instant in relation to the reference clock SH, to achieve greater precision of time measurement.

Allowable Subject Matter

Claims 5-10 are allowed.

The following is an examiner's statement of reasons for allowance:

The prior arts of record taken alone or in combination fail to teach, anticipate, suggest or render obvious the claimed invention, regarding independent claims 5 and 6, aligning a voltage ramp, including starting the voltage ramp at a defined time of periods of the reference clock following coincidence of the interval clock and the reference clock, sampling the voltage ramp, wherein determining a slope of the voltage ramp comprises calculating the ratio of difference in voltage between a second sample and a first voltage sample to the time difference between the respective known times at which the voltage is sampled to obtain the first and second voltage sample.

Consequently, independent claims 5 and 6 are allowed over the prior arts of record.

Claims 7-10 are directly or indirectly depended upon claims 5 and 6 and therefore are also allowable.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably

accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

Applicant's submission of an information disclosure statement under 37 CFR 1.97(c) with the fee set forth in 37 CFR 1.17(p) on September 22, 2003 prompted the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 609(B)(2)(i). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to James C Kerveros whose telephone number is (703) 305-1081. The examiner can normally be reached on 9:00 AM TO 5:00 PM.

Art Unit: 2133

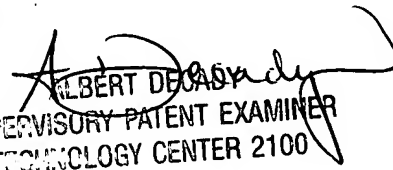
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Albert Decady can be reached on (703) 305-9595. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Date: February 5, 2004
Final Rejection

James C Kerveros
Examiner
Art Unit 2133

By: 


ALBERT DECADY
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100